

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 29-31 remain active in this application, Claims 1-28 having been previously canceled.

In the outstanding Office Action Claims 29-31 were rejected under 35 USC §103(a) as being unpatentable over Aggarwal (U.S. Patent No. 6,834,344 B1) in view of Stern (U.S. Patent No. 5,483,597).

Applicant respectfully traverses the outstanding ground for rejection, because in Applicant's view the pending claims patentably define over the cited prior art references. In particular, it is respectfully submitted that the underpinnings of the outstanding ground for rejection is based on a misreading of the applied prior art vis-à-vis the claimed invention. Specifically, the outstanding Official Action states the position that Aggarwal discloses that a codeword is embedded as electronic watermark information, and that Stern discloses that a simplex code is used for user identification. According to the Official Action, therefore, "it would have been obvious ... to modify the watermark embedding system of Aggarwal by embedding the codeword taken out of the simplex code associated with the user as taught by Stern." This reasoning assumes that any codes enabled for user identification can be substituted for by simplex code.

However, the claimed invention is featured by using the simplex code associated with the digital watermark. A simplex code is a binary code comprised of two symbols, -1 and 1, and a correlation between any two distinct codewords should be -1. Applicant's invention is characterized in that each of the two symbols, -1 and 1, and is made corresponding to digital watermark (such as that embedded using a spread spectrum technique based on pseudo

random number sequences) by embedding it to have positive or negative polarity, respectively.

The use of simplex code according to the present invention advantageously results in bit locations of each codeword determined by use of pseudo random number sequences having null or small correlation to one another or pseudo random number sequences embedded into different parts of digital contents. The bit locations determined in this way enable the Hamming distance between codewords to be proportional to the distance between watermarks.

The present invention uses the simplex code since the simplex code is advantageous in placing any two different digital watermarks at an equal distance and in preventing a forged digital watermark from becoming similar to the original digital watermark even if a collusion attack occurs. Such advantages of the use of simplex codes in the context of watermarking is an aspect of the present invention nowhere suggested in the prior art of record. It is therefore respectfully submitted that there is no motivation or incentive provided in the prior art references for combining the teachings relied upon.

Indeed, it is respectfully submitted that the USPTO must support its rejection by "substantial evidence" within the record,¹ and by "clear and particular" evidence² of a suggestion, teaching, or motivation to combine the teachings of different references. As discussed above, there is no substantial evidence, nor clear and particular evidence, within the

¹ In re Gartside, 203 F3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000) (holding that, consistent with the Administrative Procedure Act at 5 USC 706(e), the CAFC reviews the Board's decisions based on factfindings, such as 35 U.S.C. § 103(a) rejections, using the 'substantial evidence' standard because these decisions are confined to the factual record compiled by the Board.)

² In re Dembiczak, 175 F3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, although 'the suggestion more often comes from the teachings of the pertinent references.' The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular.") (emphasis added).

record of motivation for modifying the Aggarwal technique by incorporating simplex codes mentioned in Stern. Without such motivation and absent improper hindsight reconstruction,³ a person of ordinary skill in the art would not be motivated to perform the proposed modification, and Claims 1-10 and 19-23 are believed to be non-obvious and patentable over Aggarwal and Stern, and the above-noted benefits obtained from the claimed invention as recited in Claims 29-31, respectively, are not obviated.

Consequently, in view of the above comments, it is respectfully submitted that Claims 29-31 patentably define over the cited art and are in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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³ See MPEP 2141, stating, as one of the tenets of patent law applying to 35 USC 103, that "[t]he references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention."